Kinetics And Mechanism of the Liquid Phase Oxidation of Debenzyl And Dicyclohexylethane. 20-2-30/67

has reached its maximum. It can be increased a little by adding a new quantity of the initial hydrocarbon, nevertheless it will remain equal to about one nineth of the maximum velocity. Here, too, the authors assume delaying agents which develop during the reaction. Own by-products did not change the oxygen absorption, when adding 0.1 g resin from the dibenzyl oxidation (there having acted as delaying agent), however, an induction period lasting for 5 hours occurred. Oxidation then proceeded with normal velocity. The decrease of the dark color which was imparted by the resin gave evidence of the resin consumption during the induction. The quantity of compounds of the superoxide kind here developping, which is relatively small compared with the dibenzyl oxidation, can be accounted for by a small thermal stability of the hydrosuperoxides of the dicyclohexylethane. The same circumstance seems to account also for the higher oxidation velocity of dibenzyl with same activation energy at the beginning of the reaction of both matters.
(4 illustrations, 3 citations from publications).

ASSOCIATION: Mineral-Oil Institute of the Academy of Sciences of the U.S.S.R.
PRESENTED BY: TOCHIYEV V.A., Member of the Academy
SUBMITTED: 19.9.1956
AVAILABLE: Library of Congress
Card 3/3

CHERNACHEK, I.

Conditioned reflex method in investigating pathophysiology of hysterical symptoms. Zhur.nevr. i psikh. 56 no.11:858-865 N '56. (MLRA 10:2)

1. Nevrologicheskaya klinika Universiteta imeni Komenskogo v Bratislave, Chekhoslovakiya.

(HEMIPLEGIA,
hemiparesis of hysterical origin, conditioned pupillary reflexes in (Rus))
(HYSTERIA, manifestations,
hemiparesis, conditioned pupillary reflexes (Rus))
(REFLEX, CONDITIONED,
pupillary in hemiparesis of hysteric origin (Rus))
(PUPLIS, physiology,
conditioned reflexes in hemiperesis of hysteric origin (Rus))

CHERNAEV, P.

Kiln-seasoning or air-drying of beech lumber for construction. p. 38.
(TEZHKA PROMISHLENOST Vol. 4, No. 4, 1955)

SO: Monthly List of East European Accession, (EEAL), LC, Vol. 4, No. 9, Sept. 1955, Uncl.

CHERNAEV, P.

CHERNAEV, P. Research for determining the most suitable methods and systems for drying wood material in our country. p. 129.

Vol. 4, 1956.
NAUCHNI TRUDOVE.
AGRICULTURE
Sofiia, Bulgaria

So: East European Accession, Vol. 6, No. 3, March 1957

IVANOV, N.; MARKOVA, V.; CHERNAEV, S.

Quantitative determination of hemoglobin by Sicca's method. Suvrem. med., Sofia no.9/10:114-117 '59.

1. Iz Katedrata po propedevtika na vutreshnite bolesti pri VMI "I.P. Pavlov" - Plovdiv. Zav.katedrata: prof. An.Mitov.
(HEMOGLOBIN chem.)

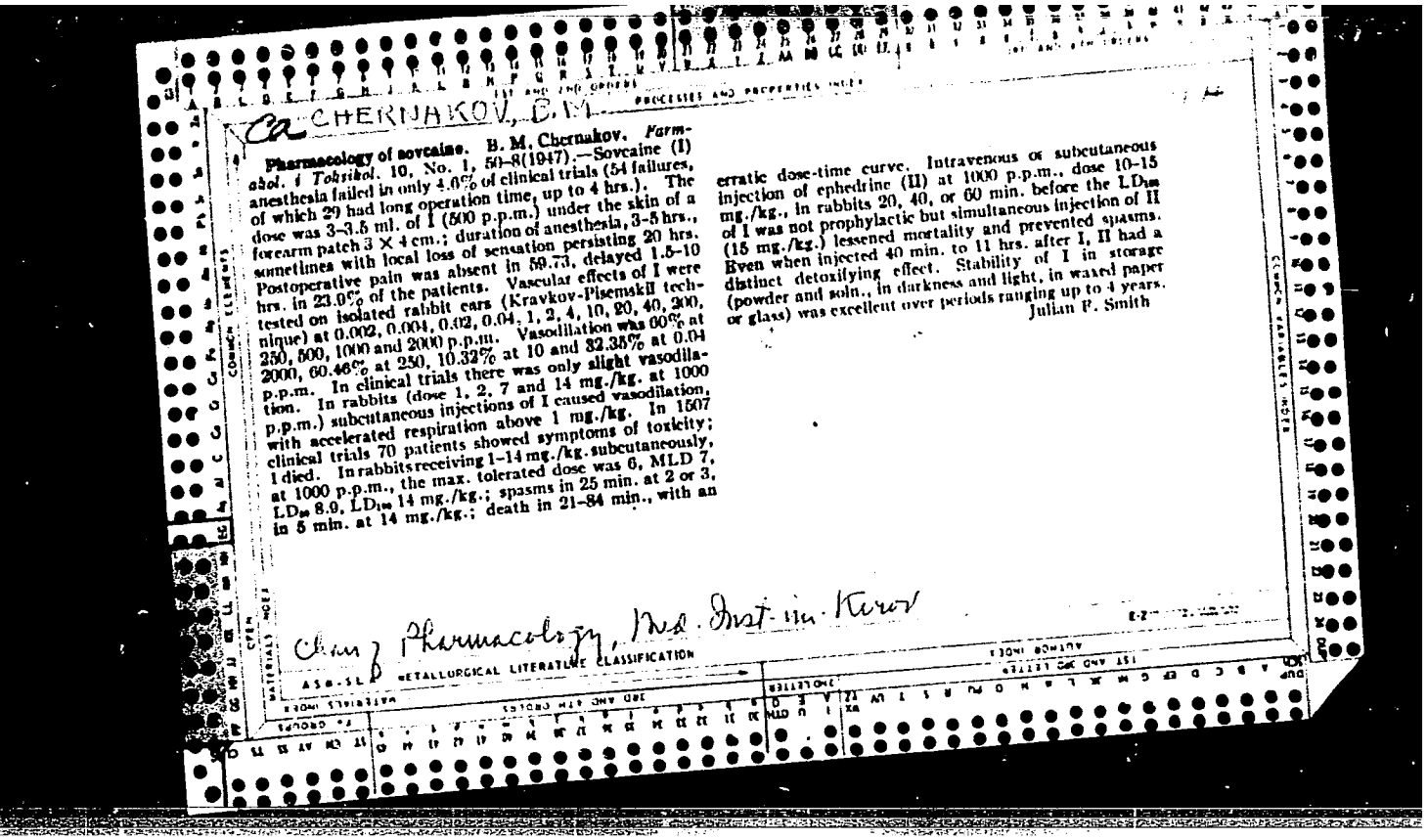
RAZUMOVA, V.N.; CHERNAKHOVSKIY, A.G.

Mesozoic and Tertiary sediments of the Karatau in southern Kazakhstan. Biul. MOIP. Otd. geol. 39 no.1:88-108 Ja-F '64. (MIRA 18:4)

KARAKIN, F.F.; RODICHEV, A.F.; PUTIY, G.P.; BASOV, A.P.; PYATAKOV, L.V.; RAUTSEP, A.P. [Rautsepp, A.]; BLAGONRAVOV, S.I.; GRECHIKHO, A.M.; DRUZHININ, N.N.; SHUKHMAN, D.I.; BAUSIN, A.F.; LOYKO, P.G.; CHERNAKOV, B.A.; SHORNIKOV, F.M.; SOPIN, P.F.

Remarks of the members of the Conference. Torf. prom. 37 no.5: 22-28 '60. (MIRA 14:10)

1. Ivanovskiy gosudarstvennyy torfotrest (for Karakin). 2. Sverdlovskiy torfotrest (for Rodichev). 3. Gosplan USSR (for Putiy). 4. Leningradskiy gosudarstvennyy trest torfyanoy promyshlennosti (for Basov). 5. Moskovskiy oblastnoy sovnarkhoz (for Pyatakov). 6. Gosudarstvennyy nauchno-tekhnicheskiy komitet Estonskoy SSR (for Rautsep). 7. Gor'kovskiy sovnarkhoz (for Blagonravov). 8. Belorusskiy sovnarkhoz (for Grechikho, Shukhman). 9. Yaroslavskiy sovnarkhoz (for Druzhinin). 10. Bobruyskaya mashinno-meliorativnaya stantsiya (for Loyko). 11. Gipromestprom Gosplana RSFSR (for Chernakov). 12. Mezhkolkhoznoye torfopredpriyatiye "Volosovskoye" Leningradskoy oblasti (for Shornikov). 13. Vsesoyuznyy nauchno-issledovatel'skiy institut torfyanoy promyshlennosti (for Sopin). (Peat industry)



Ca CHERNIAKOV, B. M.

Pharmacology of novocaine. B. M. Chernakov. *Farmakol. i Toksikol.* 10, No. 1, 50–8(1947).—Novocaine (I) anesthesia failed in only 4.0% of clinical trials (54 failures, of which 29 had long operation time, up to 4 hrs.). The dose was 3–3.5 ml. of I (500 p.p.m.) under the skin of a forearm patch 3 × 4 cm.; duration of anesthesia, 3–5 hrs., sometimes with local loss of sensation persisting 20 hrs. Postoperative pain was absent in 59.73, delayed 1.5–10 hrs. in 23.9% of the patients. Vascular effects of I were tested on isolated rabbit ears (Kravkov-Pisemskii technique) at 0.002, 0.004, 0.02, 0.04, 1, 2, 4, 10, 20, 40, 200, 250, 500, 1000 and 2000 p.p.m. Vasodilation was 60% at 2000, 60.46% at 250, 10.32% at 10 and 32.35% at 0.04 p.p.m. In clinical trials there was only slight vasodilation. In rabbits (dose 1, 2, 7 and 14 mg./kg. at 1000 p.p.m.) subcutaneous injections of I caused vasodilation, with accelerated respiration above 1 mg./kg. In 1507 clinical trials 70 patients showed symptoms of toxicity; 1 died. In rabbits receiving 1–14 mg./kg. subcutaneously, at 1000 p.p.m., the max. tolerated dose was 6, MLD 7, LD_{50} 8.9, LD_{100} 14 mg./kg.; spasms in 25 min. at 2 or 3, in 5 min. at 14 mg./kg.; death in 21–84 min., with an erratic dose-time curve. Intravenous or subcutaneous injection of ephedrine (II) at 1000 p.p.m., dose 10–15 mg./kg., in rabbits 20, 40, or 60 min. before the LD_{50} of I was not prophylactic but simultaneous injection of II (15 mg./kg.) lessened mortality and prevented spasms. Even when injected 40 min. to 11 hrs. after I, II had a distinct detoxifying effect. Stability of I in storage (powder and soln., in darkness and light, in waxed paper or glass) was excellent over periods ranging up to 4 years.

Julian P. Smith

Chem. Pharmacology, Med. Inst. im. Kirov

CHERNAKOV, B.M.

POPOV, V.I., professor, general-mayor meditsinskoy sluzhby, redaktor; CHERNAKOV, B.M., kandidat meditsinskikh nauk, polkovnik meditsinskoy sluzhby.

[Experience of Soviet medicine in the Great Patriotic War, 1941-1945] Opyt sovetskoi meditsiny v velikoi otechestvennoi voine, 1941-1945 gg. Moskva, Medgiz. Vol. 14. 1952. 351 p. (MLRA 6:12)

(Surgery, Military) (Wounds--Treatment) (Gunshot wounds)

CHERNAKOV, F.A., inzh.

Ways of further improving welding equipment from work practices of the Leningrad Council of National Economy. Svar. proizv. no.6:42 Je '65. (MIRA 18:8)

CHERNAKOV, Fedor Andreyevich. inzh.; RYZHIK, Z.M., inzh., red.; KARANDASHEV, N.M., red.; FREGER, D.P., tekhn.red.

[Manufacture of welded frames from AMg-6T aluminum alloy] Opyt izgotovleniia svarnogo korpusa izdeliia iz aliuminievogo splava marki AMg-6T. Leningrad, Leningr.dom nauchno-tekhn. propagandy, 1958. 17 p. (Informatsionno-tekhnicheskii listok, no.59. Svarka i paika metallov) (MIRA 12:4)
(Aluminum alloys--Welding)

CHERNAKOV, F. A.

MESHKOVA, O. V. (Engr.), FROSYANKIN, I. P., (Engr.), CHERNAKOV, F. A., and Others.

"Problems of Argon-Arc Welding of Light Alloys,"

paper presented at All-Union Scientific-Technical Conference on Welding in Shielding Gases, Leningrad, Dec 1957.

(Svarochnoye Proizvodstvo, 1958, No. 4, pp 46-47 - author Tyul'kov, M. D.)

CHERNAKOV, FEDOR ANDREYEVICH

PHASE I BOOK EXPLOITATION 722

Chernakov, Fedor Andreyevich, and Bogdanov, Fedor Andreyevich

Argono-dugovaya svarka i yeye primeneniye (Argon-arc Welding and Its Uses) Leningrad, Sudpromgiz, 1958. 219 p. 5,000 copies printed.

Responsible Ed.: Pashkov, N. Ye.; Ed.: Kazarov, Yu. S.; Tech.Ed.: Tsal, R. K.

PURPOSE: The monograph is intended for production workers, technicians and designers in the welding industry.

COVERAGE: The authors generalize and systematize data in the field of argon-arc welding with nonconsumable (tungsten) and consumable electrodes. The term "mechanized welding" is used by the authors to mean mechanized welding with nonconsumable electrodes in an atmosphere of inert gases. The term "automatic welding" refers only to welding with consumable electrodes. The techniques and processes of argon-arc welding of aluminum alloys, titanium and its alloys and stainless steel are described. The process of surfacing with hard alloys by using argon-arc welding is also briefly described. Basic data on operating conditions and equipment used in shielded inert-gas arc welding are given.

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Argon-arc Welding and Its Uses

Examples of welded engineering constructions and the mechanical characteristics of these welds are also given with special emphasis on those for aluminum alloys. The monograph embodies the practical experience and the theoretical knowledge of the authors, the materials and research work of the NII (Scientific Research Institute) and the instructions and experience of many scientific organizations doing research work in the field of argon-arc welding. The cooperation of many engineers is gratefully acknowledged, in particular, that of A. P. Shtromvasser, M.V. Chuprikov, A. P. Rekshan, V.A. Lyubeznov, N.V. Kozlova, V.A. Lobanova, V.A. Devyatkina and G.I. Orlov and his welding team. There are 71 references of which 47 are Soviet, 22 English, and 2 German.

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CHERNAKOV, Fedor Andreyevich, inzh.; RYZHIK, Z.M., red.; FREGER, D.P., red. izd-va; KUBNEVA, M.M., tekhn. red.

[Argon-tungsten arc cutting of aluminum alloy sheet in thicknesses up to and including 50 mm.] Argono-dugovaia rezka vol'framovym elektrodom aliuminievykh splavov tolshchinoi do 50 mm vkliuchitel'no. Leningrad, 1960. (Leningradskii Dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriia: Svarka i paika metallov, no.9) (MIRA 14:8)

(Electric metal cutting) (Plates, Aluminium)

RYZHAKOV, V. N., inzh.; MALYKHIN, V. Ya., inzh.; CHERNAKOV, F. A., inzh.

Expanded use of welding in enterprises of the Leningrad Economic Region. Svar. proizv. no.10:44-45 O '62. (MIRA 15:10)

(Leningrad Economic Region—Welding)

CHERNAKOV, F.A.; MALYKHIN, V.Ya.

Creation of cutting centers. Avtom. svar. 16 no.6:82-83 Je '63. (MIRA 16:7)

1. Leningradskiy sovet narodnogo khozyaystva (for Malykhin).
(Gas welding and cutting)

L 22648-65 EWT(d)/EWT(m)/EWP(c)/EWA(d)/EWP(v)/T/EWP(t)/EWP(k)/EWP(h)/EWP(b)/EWP(l) Pf-4 JD/HM

ACCESSION NR: AP5002892 S/0135/65/000/001/0037/0038

AUTHOR: Khanyants, R. O. (Engineer); Chernakov, G. A. (Engineer); Privalov, Yu. A. (Engineer) B

TITLE: Automation of welding in fabricating cylindrical shells from sheet material 14 26

SOURCE: Svarochnoye proizvodstvo, no. 1, 1965, 37-38

TOPIC TAGS: welding, automatic welding, submerged arc welding, 18 cylindrical shell welding

ABSTRACT: Automatic welding of cylindrical shells 500 mm in diameter and 1400—1800 mm long, made from low-carbon steel sheets 5 mm thick has been introduced at an unidentified plant. The longitudinal joints are submerged-arc welded from both sides. Then flanges are welded on both ends of the shell, also from both sides. A combination of automatic and semiautomatic submerged-arc welding resulted in a 100% mechanization of welding operations. Orig. art. has: 2 figures. [MS]

Card 1/2

L 22648-65

ACCESSION NR: AP5002892

ASSOCIATION: none

SUBMITTED: 00	ENCL: 00	SUB CODE: IE
NO REF SOV: 000	OTHER: 000	ATD PRESS: 3172

Card 2/2

BOREVSKIY, Vladimir Moiseyevich; CHERNAKOV, Mikhail Georgiyevich; STROGANOV, A.I., red.; SVET, Ye.B., red.

[Organization of safety measures in a metallurgical plant] Organizatsiia raboty po tekhnike bezopasnosti na metallurgicheskom zavode. Cheliabinsk, Cheliabinskoe knizhnoe izd-vo, 1962. 98 p. (MIRA 18:3)

SEREBRYAKOV, V.A.; CHERNAKOV, M.G.

Improving working conditions in sintering plants. Metallurg 8 no.1:11 Ja '63. (MIRA 16:1)

1. Zamestitel' nachal'nika aglofabriki Chelyabinskogo metallurgicheskogo zavoda (for Serebryakov). 2. Starshiy inzhener Osobogo tekhnicheskogo byuro Cheblyabinskogo metallurgicheskogo zavoda (for Chernakov).
(Iron and steel workers--Diseases and hygiene)
(Sintering)

27347
S/080/61/034/009/027/028
D204/D305

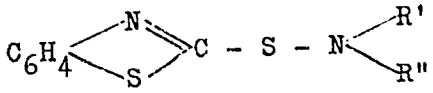
15.9130

AUTHORS: Fel'dshteyn, M.S., Chernamorskaya, I.G., Gur'yanova, Ye.N., and Eytingon, I.I.

TITLE: The vulcanizing activity of sulfenamide derivatives of 2-mercaptobenzothiazole and exchange of thiobenzothiazolyle radicals with radioactive di-2-benzothizyldisulphide

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 9, 1961, 2073 - 2079

TEXT: The authors wanted to study different sulfenamide derivatives of 2-mercaptobenzothiazole. These are used widely in industry as vulcanization accelerators. They have the general formula



and the vulcanizing effect depends to a large extent on the struc-

Card 1/4

The vulcanizing activity of ...

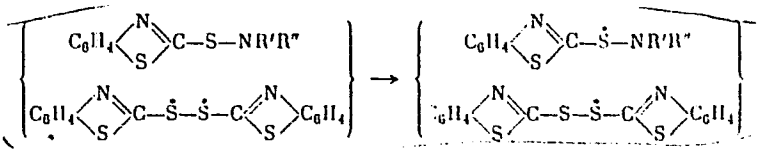
ture of the R' and R" radicals. The derivatives were introduced into a mixture of butadienesterol rubber (CKC-30APM) and a small amount of sulphur (1.5 parts by weight to a 100 parts by weight of rubber) and vulcanized at a 143°. N,N-diethyl-,N-cyclohexyl- and N-oxydiethylene-2-benzothiazolsulfenamide form vulcanizing structures after 30 minutes heating whilst these structures are formed at a later stage of the process in the presence of N,N-dicyclohexyl and N-methyl-N-phenyl-2- benzothiazosulphenamides. This is technologically important because of the rapid viscosity rise. Moreover, the kinetics of the process can be, to a large extent, controlled. As regards the structural factors responsible for differences in vulcanizing activity of the sulphenamides the strength of chemical bond and the ease with which the molecule can form separate radicals is of prime importance. The mechanics of radical exchange has been studied using labelled atoms by Ye.N. Gur'yanova (Ref. 3: sb. dokl. "Vulkanizatsiya rezin". Goskhimizdat, 101, 1954) In the present work the exchange of thiobenzothiazolyle groups was studied between the investigated compounds on the one hand and

Card 2/4

27347
S/080/61/034/009/013/016
D204/D305

The vulcanizing activity of ...

di-2-benzothiazyldisulphyde with a labelled S^{35} atom in the disulphide bridge on the other:



The isotope exchange reaction was effected in toluene at a di-2-benzothiazyldisulphide/sulphenamide ratio of 1:2, avoiding side reactions and separating the rubber mixture components by paper chromatography. As regards exchange capacity the compounds can be classified as follows: N-cyclohexyl- > N-oxydiethylene (- N-methyl-N-penyl-)- > N,N-dicyclohexyl- > N-phenyl-2-benzothiazolsulfenamide. This too is of the order of vulcanizing activity. I.e. using sulfenamide accelerators the vulcanizing process is correlated with the exchange capacity of the thiobenzothiazolyle radicals i.e. the more firmly the thio-benzothiazolyle groups are bound in

Card 3/4

The vulcanizing activity of ...

the sulphenamide compounds the slower the speed of vulcanization. There is still insufficient data to decide whether the reaction proceeds by a radical or bimolecular mechanism and this makes the exact role of the R' and R" radicals hard to determine. The exchange reactions studied here may be used for the synthesis of sulfenamide derivatives of 2-mercapto-benzothiazole with a labelled radioactive sulphur atom. There are 2 figures, 4 tables, and 4 Soviet-bloc references.

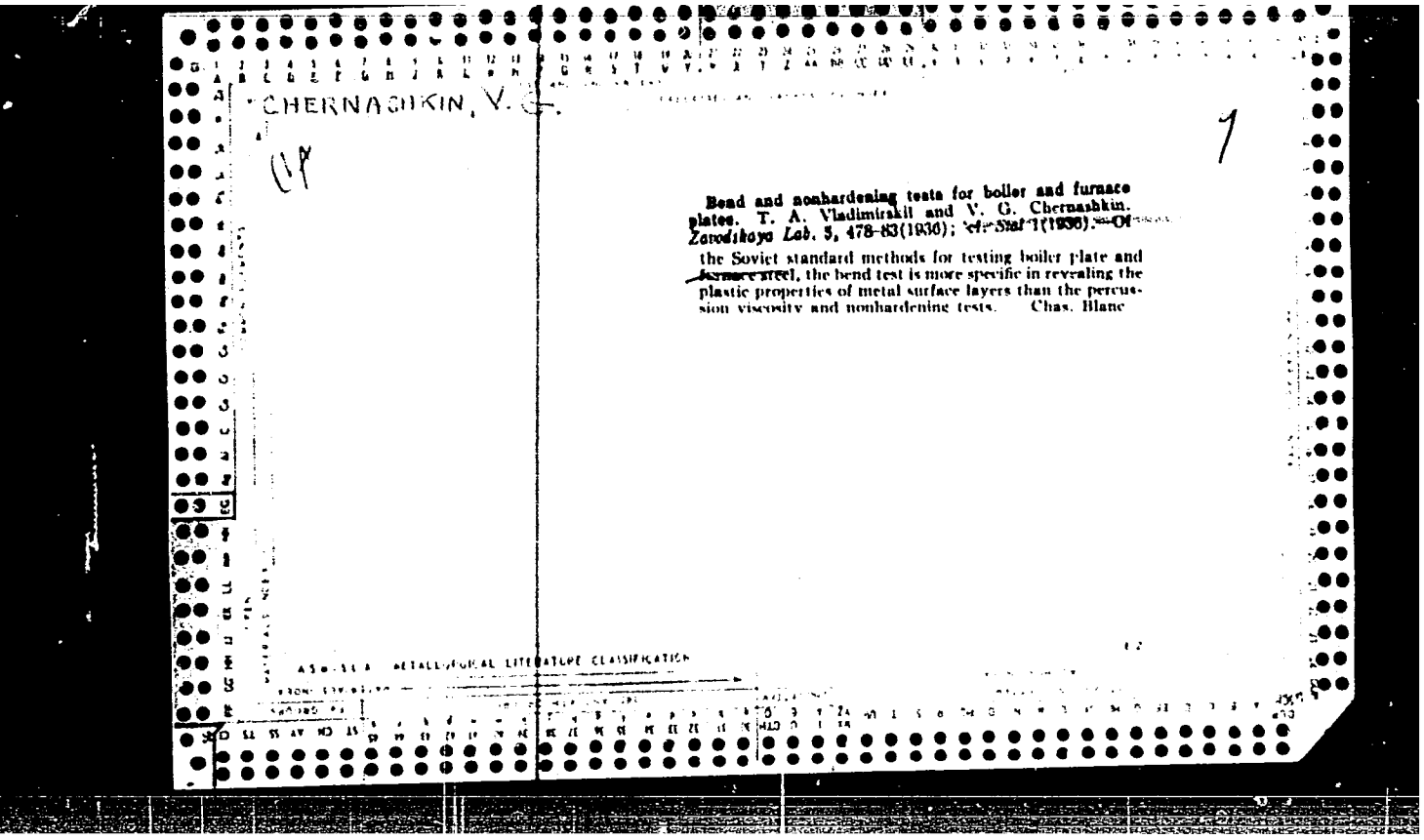
ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promyshlennosti i fiziko-khimicheskiy institut imeni L.Ya. Karpova (Scientific Research Institute of the Tire Industry and Physico-Chemical Institute im. L.Ya. Karpov)

SUBMITTED: June 24, 1960

CHERNAMORYAN, R.O.

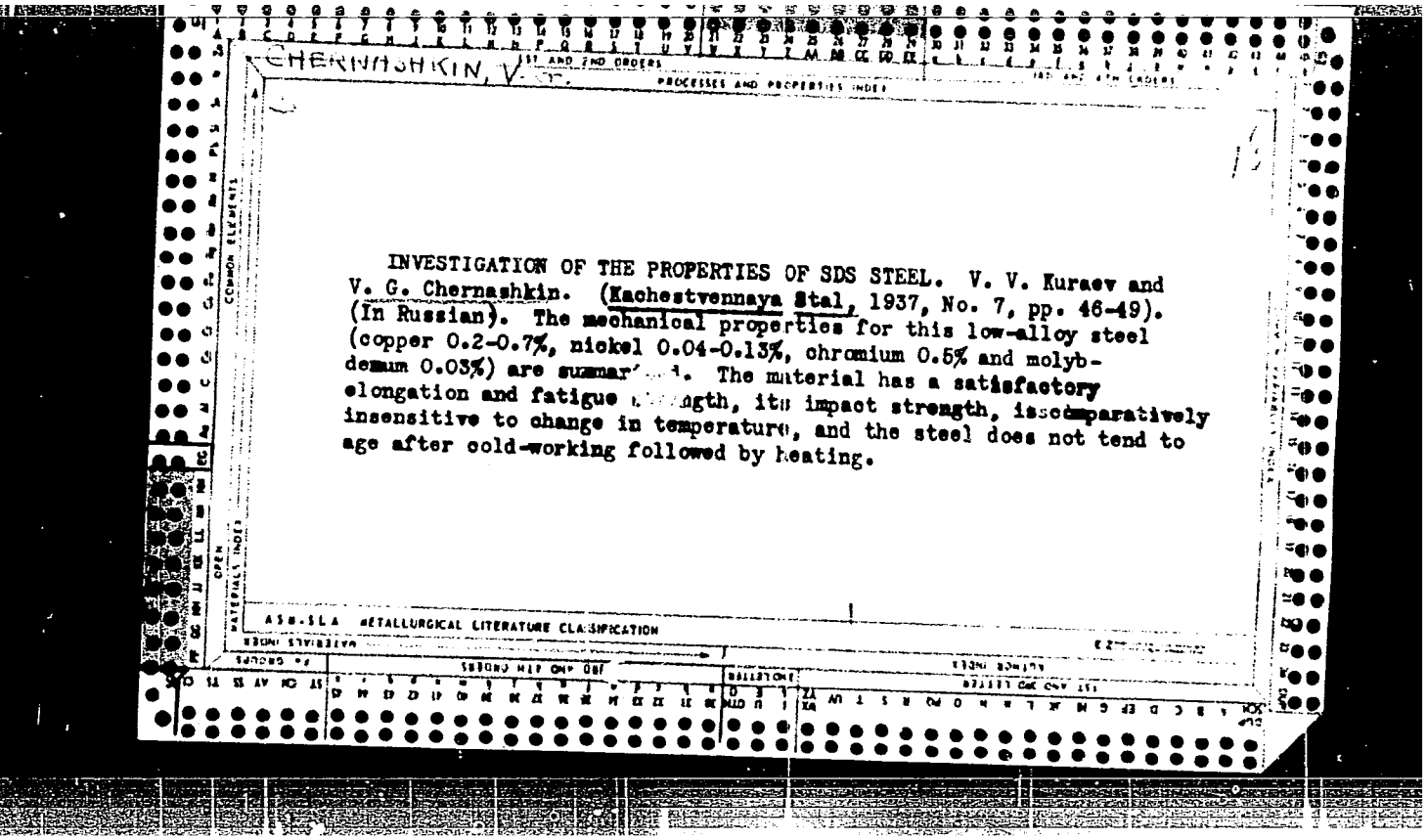
Observations on the cross-pollination of rye. Izv.AN Arm.SSR.Biol.i sel'khoz.nauki 6 no.8:75-80 '53. (MLRA 9:8)

1. Institut genetiki i selektsii rasteniy AN Arm. SSR.
(Rye) (Fertilization of plants)



CHERNASHKIN, V. G.

Bend and nonhardening tests for boiler and furnace plates. T. A. Vladimirskii and V. G. Chernashkin. *Zavodskaya Lab.* 5, 478-83(1936); *cf. Stal'* 1(1936).—Of the Soviet standard methods for testing boiler plate and furnace steel, the bend test is more specific in revealing the plastic properties of metal surface layers than the percussion viscosity and nonhardening tests. Chas. Blanc



CHERNYASHKIN, V.

INVESTIGATION OF THE PROPERTIES OF SDS STEEL. V. V. Kuraev and V. G. Chernashkin. (Kachestvennaya Stal, 1937, No. 7, pp. 46-49). (In Russian). The mechanical properties for this low-alloy steel (copper 0.2-0.7%, nickel 0.04-0.13%, chromium 0.5% and molybdenum 0.03%) are summarized. The material has a satisfactory elongation and fatigue strength, its impact strength, is comparatively insensitive to change in temperature, and the steel does not tend to age after cold-working followed by heating.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA CHERNASHKIN, V. G.

9

Structural properties of Thomas steel V. G. Chernashkin and V. V. Kunaev. *Stal' Prom.* 10, No. 6, 18-21 (1941); *Chem. Zentr.* 1942, II, 2311. As compared to Martin steel, Thomas steel has a somewhat higher P and S content, higher values of tenacity, yield point and elongation and poorer resistance to corrosion. At normal temps. Thomas steel is in a state of transition from plastic to brittle. The latter condition is reached at 40° in the case of those types cast in the killed condition and at −20° for those cast unkilled. The killed and the unkilled steels (values for the latter in parenthesis) had the following compns.: C [illegible], Mn 0.45 (0.40), P 0.085 (0.013), S 0.05 (0.047), Ti trace (0%) and Si traces in both. The resp. properties were tensile strength 44.4–43.8 (44.2–40.7) kg./sq. mm., yield point 30.9–32.1 (29.1–31.5) kg./sq. mm., elongation 25.8–20.2 (25.5–21.3)%, impact resistance (notched bar) at 20° 12.4 ± 0.3 (0.7 ± 1.0) and at −20° 8.5 ± 1.6 (1.1 ± 0.3) kg.-m./sq. cm., aging limit 27.5 (23.5) and, in the case of notched specimens, 19 (17) kg./sq. mm. The plasticity of the killed steel scarcely decreased when the annealing temp. was increased to 300° while that of the unkilled steels was reduced about half. The plasticity increased from 300 to 600°, especially in the case of the unkilled steels, while the tenacity and yield point decreased. The latter was increased after hardening while the impact resistance (notched bar) of the killed steel remained unchanged and that of the unkilled steel was reduced. After hardening and annealing at 250° the tenacity increased and the notched-bar impact resistance of the unkilled steel decreased. After aging with increasing annealing temp. the yield point decreased and the notched-bar impact resistance increased. After 30 hrs. at room temp. the latter value for the unkilled steel was 83% of the initial value, so that aging was complete within this period, while much longer periods were required for the killed steel. The killed steel was more resistant to corrosion in air contg. fumes and also more resistant to fluctuations in mech. stresses than the steel which was cast unkilled.

M. G. Moore

CHERNASHKIN, V. G.

Domestically produced low alloy structural steels Moskva, Mashstroiizdat, 1950.
95 p. (51-29072)

TA473.C5

LEYKIN, I. M. and CHERNASHKIN, V.G.

Nizkolegirovannye Syroitel'nyye Stali, published by Metallurgizdat, Moscow, 1952

Sum #148

USSR/Engineering - Welding, Materials Jan 52

"New Electrodes for High-Speed Welding of Metal Structures," V. G. Chernashkin, Cand Tech Sci, A. M. Gofner, Engr, NII (Sci Res Inst) of Constr, Minmashstroy (Min of Mach Bldg)

"Byull Stroitel Tekh" No 1, pp 19-20

Suggests introduction of steel powder into coating mixt of electrodes, using roughing wastes of alloy steels for making powder. Electrodes of this type considerably increase efficiency of welding process and improve quality of weld. Steel powder decreases consumption of ferroalloys

202T56

USSR/Engineering - Welding, Materials (Contd) Jan 52

required for manuf of electrodes, and compensates for loss of electrode metal by burning and sputtering.

202T56

CHERNASHKIN, V. G.

CHERNASHKIN, V. G.

USSR/Engineering - Welding, Materials Jan 52

"Utilization of the Powdered Steel From Rough Grinding Dust in Welding Electrodes," V.G. Chernashkin, Cand Tech Sci, A.M. Gofner, Engr

"Avtogen Delo" No 1, pp 20-24

Outlines process for sepg metal component from emery dust remaining after rough grinding of steel rolled stock and steel production of ball bearing plant. 400-440 kg of pure steel powder may be obtained out of 1,000 kg of emery dust. Discusses use of this powder in coatings for electrodes and analyzes favorable effect of such application on properties of welds.

212T16

CHERNASHKIN V.G.

AL'TGAUZEN, O.N., kandidat fiziko-matematicheskikh nauk; BERNSHTEYN, M.L., kandidat tekhnicheskikh nauk; BLANTER, M.Ye., doktor tekhnicheskikh nauk; BOKSHTEYN, S.Z., doktor tekhnicheskikh nauk; BOLKHOVITINOVA, Ye.N., kandidat tekhnicheskikh nauk; BORZDYKA, A.M., doktor tekhnicheskikh nauk; BUNIN, K.P., doktor tekhnicheskikh nauk; VINOGRAD, M.I., kandidat tekhnicheskikh nauk; VOLOVIK, B.Ye., doktor tekhnicheskikh nauk [deceased]; GAMOV, M.I., inzhener; GELLER, Yu.A., doktor tekhnicheskikh nauk; GORELIK, S.S., kandidat tekhnicheskikh nauk; GOL'DENBERG, A.A., kandidat tekhnicheskikh nauk; GOTLIB, L.I., kandidat tekhnicheskikh nauk; GRIGOROVICH, V.K., kandidat tekhnicheskikh nauk; GULYAYEV, B.B., doktor tekhnicheskikh nauk; DOVGALEVSKIY, Ya.M., kandidat tekhnicheskikh nauk; DUDOVTSEV, P.A., kandidat tekhnicheskikh nauk; KIDIN, I.N., doktor tekhnicheskikh nauk; KIPNIS, S.Kh., inzhener; KORITSKIY, V.G., kandidat tekhnicheskikh nauk; LANDA, A.F., doktor tekhnicheskikh nauk; LEYKIN, I.M., kandidat tekhnicheskikh nauk; LIVSHITS, L.S., kandidat tekhnicheskikh nauk; L'VOV, M.A., kandidat tekhnicheskikh nauk; MALYSHEV, K.A., kandidat tekhnicheskikh nauk; MEYERSON, G.A., doktor tekhnicheskikh nauk; MINKEVICH, A.N., kandidat tekhnicheskikh nauk; MOROZ, L.S., doktor tekhnicheskikh nauk; NATANSON, A.K., kandidat tekhnicheskikh nauk; NAKHIMOV, A.M., inzhener; NAKHIMOV, D.M., kandidat tekhnicheskikh nauk; POGODIN-ALEKSEYEV, G.I., doktor tekhnicheskikh nauk; POPOVA, N.M., kandidat tekhnicheskikh nauk; POPOV, A.A., kandidat tekhnicheskikh nauk; RAKHSHTADT, A.G., kandidat tekhnicheskikh nauk; ROGEL'BERG, I.L., kandidat tekhnicheskikh nauk;

(Continued on next card)

AL'TGAUZEN, O.N.---- (continued) Card 2.
SADOVSKIY, V.D., doktor tekhnicheskikh nauk; SALTYKOV, S.A., inzhener; SOBOLEV, N.D., kandidat tekhnicheskikh nauk; SOLODIKHIN, A.G., kandidat tekhnicheskikh nauk; UMANSKIY, Ya.S., kandidat tekhnicheskikh nauk; UTEVSKIY, L.M., kandidat tekhnicheskikh nauk; FRIDMAN, Ya.B., doktor tekhnicheskikh nauk; KHIMYSHIN, F.F., kandidat tekhnicheskikh nauk; KHRUSHCHEV, M.M., doktor tekhnicheskikh nauk; CHERNASHKIN, V.G., kandidat tekhnicheskikh nauk; SHAPIRO, M.M., inzhener; SHKOL'NIK, L.M., kandidat tekhnicheskikh nauk; SHRAYBER, D.S., kandidat tekhnicheskikh nauk; SHCHAPOV, N.P., doktor tekhnicheskikh nauk; GUDTSOV , N.T., akademik, redaktor; GORODIN, A.M. redaktor izdatel'stva; VAYNSHTEYN, Ye.B., tekhnicheskiy redaktor

[Physical metallurgy and the heat treatment of steel and iron; a reference book] Metallovedenie i termicheskaia obrabotka stali i chuguna; spravochnik. Pod red. N.T.Dudtsova, M.L.Bernshteina, A.G. Rakhshtadta. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1956. 1204 p. (MLRA 9:9)

1. Chlen -korrespondent Akademii nauk USSR (for Bunin)
(Steel--Heat treatment) (Iron--Heat treatment)
(Physical metallurgy)

CHERNASHKIN, V.G.

PEREL'SHTEYN, N.L., obshchiy red.; DRUZHININ, B.N., inzhener; nauchnyy red.; CHERNASHKIN, V.G., kand. tekhn. nauk, nauchnyy red.; GRABINSKIY, Ye.K., [deceased], inzhener, red.; IMMERMAN, A.G., kand. tekhn. nauk, red.; RAFALOVICH, L.A., inzh., red.; GORCHAKOV, A.V., otvetstvenyy red.; ZLATOTSVETOVA, I.I., red.; VASILEVSKIY, B.A., tekhn. red.

[Using prestressed reinforced concrete; based on data from the Second International Congress, Amsterdam, September 1955] Primenenie napriazhenno armirovannogo zhelezobetona; po materialam Vtorogo mezhdunarodnogo kongressa (g. Amsterdam, sentiabr' 1955 g.). Moskva, 1957. 322 p. (MIRA 10:12)

1. Russia (1923- U.S.S.R.) Ministerstvo stroitel'stva. Tekhnicheskoye upravleniye. 2. TSentral'noye byuro tekhnicheskoy informatsii (for Zlatotsvetova). 3. Chlen-korrespondent Akademii stroitel'stva i arkhitektury (for Perel'shteyn).
(Amsterdam--Prestressed concrete--Congresses)

CHERNASHKIN, V.G.

137-58-3-5969

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 216 (USSR)

AUTHORS: Chernashkin, V. G., Gofner, A. M., Sivryukova, M. A.

TITLE: Properties of Structural Open-hearth Steel Containing Arsenic (Svoystva stroitel'noy stali martenovskogo proizvodstva, soderzhashchey mysh'yak)

PERIODICAL: V sb.: Issledovaniya. Stal'nyye konstruktsii. Moscow, Gos. izd-vo lit. po str-vu i arkhitekt., 1957, pp 55-89

ABSTRACT: Investigations were performed in order to establish the effect of As (0.118 - 0.29 percent) on the mechanical properties (σ_b, σ_s, δ, ψ, H_B), microstructure, and weldability of low carbon structural steel (rimmed and killed) containing 0.15 - 0.25 percent C, 0.37 - 0.62 percent Mn, up to 0.25 percent Si, 0.025 - 0.45 percent S, and 0.02 - 0.46 percent P. The As is introduced as a special alloying element. Aside from the As, the chemical composition of steel used in the experimental smeltings did not differ from standard open-hearth steel MSt.3. An investigation of macro- and microstructure has shown that in this respect also the As steel is similar to

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Properties of Structural Open-hearth Steel Containing Arsenic

the usual steel. Mechanical properties of all steel melts containing As fully meet the GOST 380-50 specifications for steel MSt. 3. The As steel does not exhibit any increased tendencies to mechanical aging. The a_k of the steel decreased by approximately 35 percent upon aging. Low-temperature a_k tests of the steel located the threshold of cold shortness in rimmed As steel in the interval between -20^o and 40^o, whereas in killed steel it was found to be between -40^o and -60^o. Mechanical properties of seams and welded joints fully satisfy the GOST 2523-51 requirements. Hardness and plasticity investigations of steel within the entire range of the welding cycle revealed no brittle conditions in the metal. The reaction of As steels in the course of thermal welding cycle is analogous to the reaction of steel produced in open-hearth furnaces. No cold or hot cracks were observed during welding. Both killed and rimmed steel of MSt. 3 type containing up to 0.28 percent As may be used in welded construction in a manner identical to the employment of rimmed and killed MSt. 3 steel containing no As. Bibliography: 8 references.

N. K.

Card 2/2

137-58-4-7777

Translation from: Referativnyy zhurnal, Metallurgiya 1958, Nr 4 p 204 (USSR)

AUTHORS: Chernashkin, V. G., Babayeva, A. Ye.

TITLE: Corrosion of Structural Steels in Natural Conditions (Korroziі stroitel'nykh staley v yestestvennykh usloviyakh)

PERIODICAL: V sb.: Issledovaniya. Stal'nyye konstruktsii. Moscow, Gos. izd-vo lit. po str-vu i arkhitekt., 1957, pp 127-143

ABSTRACT: Structural medium-carbon, low-carbon, and mild steels were tested in sea water, tap water, in marine, industrial, and gas-and-vapor atmospheres, and in the soil. The corrosion was determined by change in weight. Visual examination of the specimens after corrosion was also performed. It was shown that in all steels exposed to a gas-and-vapor atmosphere of arsenical solutions (at a chemical plant) a maximum corrosion was observed about 10 times greater than that in a marine air atmosphere. The difference in the ratio of maximum to minimum corrosion losses in the mediums under investigation varies from 2 to 10. The maximum losses occur during the initial test period (3-6 months). Depending upon the composition of the steel, the ratio of corrosion losses from one to another ranged from 1 to 2. In the ma-

Card 1/2

137-58-4-7777

Corrosion of Structural Steels in Natural Condition

jority of mediums investigated, the low-alloy steels were more stable, but under conditions of semi-immersion, they showed no superiority over the low-carbon steels. Data on the corrosion of maritime hydraulic engineering structures made of steel is appended.

K. Zh.

1. Steel--Corrosion--Test results

Card 2/2

GOFNER, A.M., inzh.; CHERNASHKIN, V.G., kand.tekhn.nauk.

Welding steel members at temperatures below the ice point.
Nov. tekh. i pered. op. v stroi. 20 no.9:10-11 S '58.
(MIRA 11:10)

(Steel, Structural--Welding)
(Electric welding--Cold weather conditions)

SOV/32-24-9-26/53

AUTHORS: Chernashkin, V. G., Gofner, A. M., Silvryukova, M. A.

TITLE: On the Question of the Estimation of the Quality of Steel Plate by Testing Its Toughness (K voprosu otsenki kachestva listovoy stali putem ispytaniya na udarnuyu vyazkost')

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol 24, Nr 9, pp 1112-1115 (USSR)

ABSTRACT: In the course of the last few years, destructions of vertical cylindrical welded 5000 m^3 tanks for petroleum products have occurred. The embrittling of steel during production and the formation of fissures in the welding seams are thought to be responsible for these destructions. The possibility of a localization of these fissures or of a complete prevention of fissure formation, depends on the quality of the steel plate and on a low tendency to brittleness. At the laboratories of the institute (no name given), steel plate samples (of a thickness below 10 mm) were used to study the influence of the cross section and the depth of notching on the tensile strength and the toughness. Three types of samples were used, and, amongst others, results analogous to those obtained by G. I.

Card 1/2

On the Question of the Estimation of the Quality of Steel Plate by Testing Its Toughness

Pogodin-Alekseyev (Ref 1) were attained. Graphic representations of the variation of tensile strength as determined by notch depth, sample height and sample width in MSt 3 steel (0,19% C, 0,54% Mn, 0,25% Si, 0,035% S and 0,020% P) are given, together with the corresponding explanations and tables of results. Mention is made of the fact that the Mezhdunarodnaya assotsiatsiya po standartizatsii priyemochnykh ispytaniy stali po udarnoy vyazkosti (International Association for the Standardization of Steel Acceptance Tests According to Toughness) has fixed the sample notch at 5 mm.
There are 5 figures, 3 tables, and 1 reference, which is Soviet.

Card 2/2

S/032/60/026/04/26/046
B010/B006

AUTHORS: Chernashkin, V.G., Livchak, T.N.

TITLE: Method of Relaxation Measurement of a High-strength Wire

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. 26, No. 4, pp. 481-483

TEXT: In elongation tests, the relaxation of a high-strength wire is best measured at constant wire sample length. A fatigue test method based on this fact was developed and high-strength wire samples (σ_B = 150-200 kg/mm^2) of various origins were tested at 20 ± 1°. The wire sample was fixed in a steel frame (Fig. 1). Stresses of 90-170 kg/mm^2 were applied and the frequency was measured at 150-250 cps. The minimum stress relaxation in the sample changes the frequency by about 2-3 cps, so that the frequency had to be determined with a precision of 0.1 cps, in order to reduce the error in relaxation measurements to 2.5-3%. A special block scheme (Fig. 2) was therefore designed. The sample is vibrated by an electromagnetic vibrator connected to a power amplifier (exciter block type PV-3, produced by TsLEM Mosenergo). The mechanical vibrations are transformed to electric tension by a strain gage and recorded

Card 1/2

by an EO-7 oscilloscope. The frequency is measured by an SD-60 synchronous motor. To increase the accuracy of measurement, a second block scheme (Fig. 3) utilizing a radiometric apparatus of type BK-3 produced by the plant "Fizpribor" was designed (this scheme was developed by P.P. Veselov, Engineer). The test results obtained are shown graphically (Fig. 4). There are 4 figures and 5 Soviet references.

CHERNASHKIN, V.G., inzh.; LIVCHAK, T.N., inzh.

Relaxation of stresses and creep of high-strength wire reinforcement. Bet. i zhel.-bet. no.9:414-417 S '61. (MIRA 14:10)
(Concrete reinforcement)

ALFEROVA, N.S., doktor tekhn. nauk; BERNSHTEYN, M.L., kand. tekhn. nauk; BLANTER, M.Ye., doktor tekhn. nauk; BOKSHTEYN, S.Z., doktor tekhn.nauk; VINOGRAD, M.I., kand. tekhn.nauk; GAMOV, M.I., inzh.; GELLER, Yu.A., doktor tekhn. nauk; GOTLIB, L.I., kand. tekhn. nauk; GRDINA, Yu.V., doktor tekhn.nauk; GRIGOROVICH, V.K., kand. tekhn. nauk; GULYAYEV, B.B., doktor tekhn. nauk; DOVGALEVSKIY, Ya.M., kand. tekhn. nauk; DUDOVTSEV, P.A., kand. tekhn. nauk [deceased]; KIDIN, I.N., doktor tekhn. nauk; LEYKIN, I.M., kand. tekhn. nauk; LIVSHITS, B.G., doktor tekhn. nauk; LIVSHITS, L.S., kand.tekhn. nauk; L'VOV, M.A., kand. tekhn. nauk; MEYERSON, G.A., doktor tekhn. nauk; MINKEVICH, A.N., kand. tekhn. nauk; NATANSON, A.K., kand. tekhn. nauk; NAKHIMOV, A.M., inzh.; NAKHIMOV, D.M., kand. tekhn. nauk; OSTRIN, G.Ya., inzh.; PANASENKO, F.L., inzh.; SOLODIKHIN, A.G., kand. tekhn.nauk; KHINUSHIN, F.F., kand. tekhn. nauk; CHERNASHKIN, V.G., kand. tekhn. nauk; YUDIN, A.A., kand. fiz.-mat. nauk; YANKOVSKIY, V.M., kand. tekhn. nauk; RAKHSHTADT, A.G., red.; GORDON, L.M., red. izd-va; VAYNSHTEYN, Ye.B., tekhn. red.

(Continued on next card)

ALFEROVA, N.S.--- (continued) Card 2.

[Metallography and the heat treatment of steel]Metallovedenie i termicheskaia obrabotka stali; spravochnik. Izd.2., perer. i dop. Pod red. M.L.Bernshteina i A.G. Rakhshtadta. Moskva, Metallurgizdat. Vol.2. 1962. 1656 p. (MIRA 15:10)
(Steel--Metallography)
(Steel--Heat treatment)

L 32909-65 EWP(w)/EWT(m)/EWA(d)/EWP(t)/T/EWP(k)/EWP(b) Pf-4 JD/HW
ACCESSION NR: AP5000563 S/0133/64/000/012/1145/1147

AUTHOR: Livchak, T. N.; Chernashkin, V. G.

TITLE: The effect of electrical preheating on the mechanical properties, stress relaxation, and creep, of high-strength wire rod

SOURCE: Stal', no. 12, 1964, 1145-1147

TOPIC TAGS: mechanical property, stress relaxation, creep, cold drawn wire, stress relief, heat treatment

ABSTRACT: Mechanical properties, stress relaxation, and creep were investigated in high-carbon cold-drawn wire within a 200 to 500 C temperature range. After a holding period in excess of one minute, strength declined above 400 C. Stress relaxation tests showed that after 100 hours, stress relief decreases in proportion to temperature increases and heating period. Within the initial hour all heat treated specimens displayed a 20 to 35% stress relief and attained 60 to 80% of their total stress relief (100 hrs). Creep elongation also decreases by

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L 32909-65
ACCESSION NR: 5000563

1.5 to 2 times within that same period. Similar to untreated specimens the main elongation occurs during the initial period of load application; however, the rate of creep is conspicuously inhibited by the heat treatment. Observations over an 18-month period showed that stress relief continues to develop amounting to 5.8 and 8.4% in heat treated specimens (200 to 300 C, holding time 20 sec.). Thus, within a year a wire rod may lose the properties conferred upon it by the stress relief heat treatment. Orig. art. has: 2 figures and 2 tables.

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00 SUB CODE: MM

NR REF SOV: 000 OTHER: 000

Card 2/2

ACCESSION NR: AP4041769 S/0032/64/030/007/0876/0879

AUTHORS: Rozenshteyn, I. M.; Chernashkin, V. G.

TITLE: Method of determining tendency of plate steels to brittle fracture

SOURCE: Zavodskaya laboratoriya, v. 30, no. 7, 1964, 876-879

TOPIC TAGS: induced fracture, temperature dependence, brittle fracture, steel plate, safe loading limit, low carbon steel

ABSTRACT: The method of T. S. Robertson (J. of the Iron and Steel Inst., Dec. 1953) for determining brittle fracture propagation in steel plates was discussed and its limitations stated. The method allows the dividing of brittle fracture into two stages (induced and spontaneous) and compares the relative magnitude of each. The safe loading limit with temperature effects on low carbon steels, however, is underestimated by the Robertson method in most cases. Moreover, dynamically induced brittle fracture propagation seems to lead to disagreements among various authors because of its dependence on a large number of parameters (notch type, impact force, etc). A new and simple method is proposed in order to establish a quantitative dependence between stress and specimen temperature. The

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ACCESSION NR: AP4041769

type of test specimen used is given in Fig. 1 on the Enclosure. It is clamped and loaded in the test machine (GMS-100), and the temperature is varied between -60C and +20C. These test results show much more uniformly than the Robertson test the brittleness differences in steels of the same brand but of different thicknesses. Orig. art. has: 4 figures.

ASSOCIATION: Nauchno-issledovatol'skiy institut po montazhny*m i spetsial'ny*m stroitel'ny*m rabotam (Scientific Research Institute for Assembly and Special Construction Works)

SUBMITTED: 00 ENCL: 01

SUB CODE: MM NO REF SOV: 003 OTHER: 004

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ACCESSION NR: AP4041769

ENCLOSURE: 01

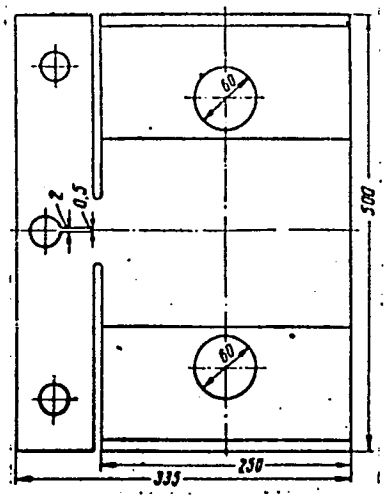

Fig. 1

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L 45611-65 EWT(m)/EWP(w)/EWA(d)/EPR/T/EWP(t)/EWP(z)/EWP(b) Pe-4 IJP(c)
MJW/JD
ACCESSION NR: AP5010173 UR/0125/65/000/004/0007/0010

AUTHOR: Rozenshteyn, I. M. (Engineer); Chernashkin, V.G. (Candidate of technical sciences)

TITLE: Investigation of the brittleness of structural steel

SOURCE: Avtomaticheskaya svarka, no. 4, 1965, 7-10

TOPIC TAGS: structural steel, steel brittleness

ABSTRACT: Sheet St3 low-carbon, killed, semikilled, and rimmed steels, 6, 12, and 20-mm thick, and tank steel (ChMTU 5232-55) were tested for brittle fracture. By a static initiation of a brittle fracture and testing of H-shaped specimens for double tension, conditions of the brittle-fracture propagation were studied. An experimental plot of the fracture-propagation critical temperature vs. sheet thickness shows that the heavier sheets cannot always ensure reliability of tanks and piping. A better-quality tank steel (finally deoxidized by Al in the ladle) showed the lowest critical temperature; the rimmed steel exhibited the

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L 45611-65
ACCESSION NR: AP5010173

highest critical temperature. A stress of 5—10% of the yield point was sufficient for the spontaneous propagation of an initiated fracture. Orig. art. has: 4 figures.

ASSOCIATION: NIImontazhspetsstroy

SUBMITTED: 23May64 ENCL: 00 SUB CODE: MM

NO REF SOV: 003 OTHER: 004

Card 2/2

SOKOLOVSKIY, [illegible]; [illegible]SKIY, [illegible]; [illegible], [illegible]; BARYNINA, [illegible]; CHERNASHKIN,
[illegible]; ROZENSHTEYN, I.M.; KISSEL', [illegible]

Low-carbon Bessemer steel for structural elements. Prom.stroi. 42 no.7:29-32 '65. (MIRA 18:8)

1. TSentral'nyy nauchno-issledovatel'skiy institut stroitel'nykh konstruktsiy (for Barynina). 2. Nauchno-issledovatel'skiy institut po montazhnym i spetsial'nym stroitel'nym rabotam (for Rozenshteyn). 3. Zhdanovskiy metallurgicheskiy zavod im. Il'icha (for Kissel').

137-58-6-12490

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 188 (USSR)

AUTHORS: Gofner, A.M., Chernashkin, V.P.

TITLE: Research on Electrodes With Coatings of Dispersed Metal and Their Employment (Issledovaniye i primeneniye elektrodov s dispersnym metallom)

PERIODICAL: V sb.: Issledovaniya. Stal'nyye konstruktsii. Moscow, Gos. izd-vo lit. po stroitel'stvu i arkhitekture, 1957

ABSTRACT: An examination of problems connected with the improved efficiency of welding processes performed with fusible electrodes the coatings of which contained a quantity of steel powder obtained from scalings of rolling processes and from the metallic fraction of metal waste from abrasive treatment of high-quality steel. Optimal properties were exhibited by electrodes in which the weight of the additional powdered metal was equal to one-half of the weight of the electrode rod. Technical and technological characteristics of electrodes with dispersed coatings are shown. It is pointed out that the introduction of the steel powder into the coating greatly improves the fusion process and reduces losses. The specific energy

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308430002-1"

137-58-6-12490

Research on Electrodes with Coatings of Dispersed Metal (cont.)

consumption for electrodes of the OMM-5 and UONI-13 types increases by 60% and 15-20%, respectively. Electrodes of this type permit to carry out welding operations in any position and orientation.

A.B.

1. Arc welding--Electrodes 2. Electrodes--Coatings 3. Electrodes--Properties
4. Electrodes--Applications

Card 2/2

CHERNAVIN, A., ekonomist (Vladimir-Volynskiy); SHAKHANOV, V., inzh. (Moskva); ARKUSH, N., inzh.; SAVITSKIY, A. (Dneprodzerzhinsk)

Suggested, achieved, introduced. Izobr.i rats. no.9:16-17 S '62. (MIRA 16:3)

(Technological innovations)

CHERNAVIN, A.G.

Necessary manual for wood chemists ("Tools and equipment for tree tapping." Reviewed by A.G. Chernavin). Der.i lesokhim.prom. 2 no.7:31 Jl '53. (MLRA 6:5)

1. Abanskiy khimleskhoztrest Krasleskhim. (Tree tapping)

Chernavin, A. S.

The effectiveness of and the conditions required for the application of phosphobacterins. I. I. Samoilov, E. P. Berezova, A. S. Chernavin, V. V. Bernard, Yu. M. Voinyakovskaya, L. M. Doroninskii, R. A. Menkina, and M. Ya. Finkel'shtein. *Trudy Vsesoyuz. Nauch.-Issledovatel. Inst. Sel'skokhoz. Mikrobiol.* 8, 173-92(1953).--Application of phosphobacterins is beneficial to a variety of crops, particularly cereal grains and potatoes, especially in black soil. In soils other than black, the presence of org. matter and of the perennial-grass stratum influence the effectiveness of the added phosphobacterins. Soil treatment with phosphobacterins increases the content of available P in the soil, especially in zones abutting the roots, intensifies the nitrification process and raises the nitrate content of the soil throughout the vegetation period, and increases the content of P in the plants. B. S. Levine

(7)

1. CHERNAVIN, A.S.

2. USSR (600)

4. Fertilizers and Manures

7. Correct use of phosphorite meal in crop rotation, Sov.agron. 11 no. 4, 1953.

9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953, Uncl.

CHERNAVIN, A.S.

SAMOYLOV, I.I., akademik; BEREZOVA, Ye.F., doktor biologicheskikh nauk; CHERNAVIN, A.S., kandidat sel'skokhozyaystvennykh nauk; BERNARD, V.V., kandidat sel'skokhozyaystvennykh nauk; VOZNYAKOVSKAYA, Yu.M., kandidat biologicheskikh nauk; DOROSINSKIY, L.M., kandidat biologicheskikh nauk; MENKINA, R.A., kandidat biologicheskikh nauk; FINKEL'SHTEYN, M.Ya., kandidat biologicheskikh nauk.

Effectiveness and conditions of using phosphoro-bacterial fertilizer. Trudy Vses.inst.sel'khoz.mikrobiol. 13:173-192 '53. (MLRA 8:1)
(Fertilizers and manures)

A. S. CHERNAVIN, A.S.

N/5
714
.K8

Moskva, Sel'khozgiz, 1955. 222 P. Illus., Map, Tables.

CHERNAVIN, A.S.

[Ground phosphorite and its use] Fosforitnaia muka i ee primenenie. Moskva, Gos. izd-vo selkhoz lit-ry, 1956. 164 p. (MLRA 9:11)
(Phosphates)

CHERNAVIN, A.S.

USSR/Soil Cultivation. Mineral Fertilizers. J-3

Abs Jour: Ref. Zhur-Biologiya, No 1, 1958, 1240.

Author : Chernavin, A.S.
Inst : VIUAA
Title : The Agronomic Significance of Phosphorite Fertilizer.

Orig Pub: Sb.: Vopr. geol. agron. rud., Moskva, AN SSSR, 1956, 35-40.

Abstract: In recent years the VIUAA has been recommending the composting of phosphorite fertilizer with manure and broadening its application to soils where it had not previously been too effective. Composting Pϕ with manure on the chernozem of the Bezenchukskaya station gave a winter rye yield of 33 centners/hectare, whereas it had been only 22.1 with Pϕ alone and 29.8 with manure alone. Applying Pϕ (on a NK base) on the grass layer in the heavily argillaceous podzolic soil of Barybinskaya station increased the yield of spring rye to 29.6 centners/hectare, in contrast to 20.9 in the control. Combining Pϕ in a dose of

Card : 1/2 -5-

USSR/Soil Cultivation. Mineral Fertilizers. J-3

Abs Jour: Ref. Zhur-Biologiya, No 1, 1958, 1240.

2.5 centners/hectare under the plow and superphosphate in a 0.5 centners/hectare dose in the rows, raised the winter rye yield in 1952 to 35.4 centners/hectare, on contrast to the 30.5 centners/hectare achieved on the control.

Card : 2/2 -6-

CHERNAVIN, A.S.

[Fertilizers and crops; a manual for students] Udobreniia i urozhai; posobie dlia uchashchikhsia. Moskva, M-vo prosv. RSFSR, 1959. 117 p. (MIRA 13:7)
(Fertilizers and manures)

CHERNAVIN, Aleksandr Stepanovich, kand.sel'skokhoz.nauk; GOMENYUK, L.I., red.; PROKOF'YEVA, L.N., tekhn.red.; ZUBRILINA, Z.P., tekhn.red.

[Phosphate fertilizer is a valuable fertilizer] Fosforitnaia muka - tsennoe udobrenie. Gos.izd-vo sel'khoz.lit-ry, 1960. 66 p. (MIRA 13:5)

(Fertilizers and manures)

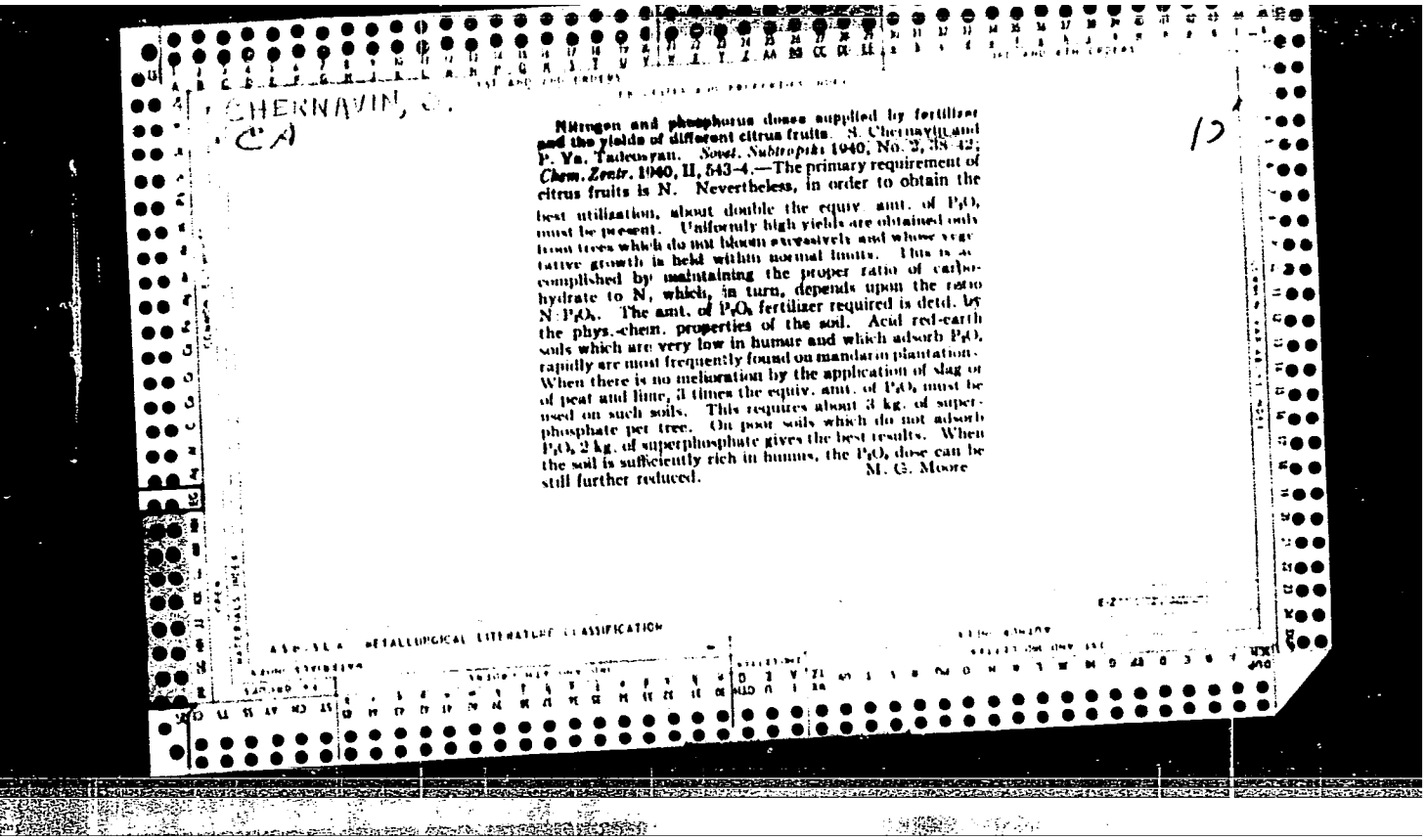
CHERNAVIN, Aleksandr Stepanovich; GEMBOREK, G.L., red.; KARPOVA, T.V., tekhn. red.

[Fundamentals of agricultural chemistry; reference book for teachers] Osnovy agrokhimii; posobie dlia uchitelei. Moskva, Gos. uchebno-pedagog. izd-vo M-va prosv. RSFSR, 1961. 219 p. (MIRA 15:3)

(Agricultural chemistry)

CHERNAVIN, A.S., kand.sel'khoz.nauk

Utilization of soil nitrogen in the nutrition of plants. Zemledelie 23 no.8:74-78 Ag '61. (MIRA 14:10)
(Soils—Nitrogen content).



CHERNAVIN, S.
CA
12

Nitrogen and phosphorus doses supplied by fertilizer and the yields of different citrus fruits. S. Chernavin and P. Ya. Tadeosyan. *Sovet. Subtropiki* 1940, No. 2, 38–42; *Chem. Zentr.* 1940, II, 543–4.—The primary requirement of citrus fruits is N. Nevertheless, in order to obtain the best utilization, about double the equiv. amt. of P_2O_5 must be present. Uniformly high yields are obtained only from trees which do not bloom excessively and whose vegetative growth is held within normal limits. This is accomplished by maintaining the proper ratio of carbohydrate to N, which, in turn, depends upon the ratio $N:P_2O_5$. The amt. of P_2O_5 fertilizer required is detd. by the phys.-chem. properties of the soil. Acid red-earth soils which are very low in humus and which adsorb P_2O_5 rapidly are most frequently found on mandarin plantations. When there is no melioration by the application of slag or of peat and lime, 3 times the equiv. amt. of P_2O_5 must be used on such soils. This requires about 3 kg. of superphosphate per tree. On poor soils which do not adsorb P_2O_5, 2 kg. of superphosphate gives the best results. When the soil is sufficiently rich in humus, the P_2O_5 dose can be still further reduced.

M. G. Moore

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CHERNAVIN, S.P.

GLUSHKOV, Leonid Aleksandrovich; BUTAKOV, S.Ye., professor, doktor tekhnicheskikh nauk, retsenaent; CHERNAVIN, S.P., redaktor; LUCHKO, Yu.V., redaktor; KOVALENKO, N.I., tekhnicheskiy redaktor.

[Dust control in ore milling] Bor'ba s pyl'iu pri izmel'chenii rud. Sverdlovsk, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, Sverdlovskoe otd-nie, 1955. 69 p. (MLRA 8:11)
(Dust collectors) (Ore dressing--Hygienic aspects)

GLUSHKOV, Leonid Aleksandrovich; BUTAKOV, S.Ye., doktor tekhnicheskikh nauk, professor, retsenzent; CHERNAVIN, S.P., redaktor; LUCHKO, Yu.V., redaktor izdatel'stva; ZEF, Ye.M., tekhnicheskiy redaktor.

[Dust removal equipment for departments using crushers and grinders] Obespylivanie oborudovaniia drobil'no-razmol'nykh otdelenii. Sverdlovsk, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, Sverdlovskoe otd-nie, 1957. 106 p. (MIRA 10:11)
(Dust--Removal)

CHERNAVINA, A.V.

An evening of topics is one of the forms of health education. Zdrav. Ros. Feder. 4 no. 4:35-37 Ap '60. (MIRA 13:10)

1. Glavnyy vrach Sverdlovskogo gorodskogo doma sanitarnogo prosveshcheniya.
(SVERDLOVSK--HEALTH EDUCATION)

CHERNAVINA, I. A.

Defended his Candidates dissertation in the Biology - Soil Faculty of Moscow State University on 3 July 1952.

Dissertation: "The Influence of Molybdenum on a Crop and the Chemical Composition of Leguminous Plants."

SO: Vestnik Moskovskogo Universiteta, Seriya Fiziko-Matematicheskikh i Yestestvennykh Nauk, No. 1, Moscow, Feb 1953, pp 151-157: transl. in W-29782, 12 April 54, [redacted].

CHERNAVINA, I. A.

Formation of the photosynthetic apparatus in various groups of plants in connection with the conditions of their existence. I. Synthesis of pigments in winter and summer wheat in dependence of conditions of illumination. B. A. Rubin and I. A. Chernavina. *Vestnik Moskov. Univ.* 10, No. 8, *Ser. Fiz. Mat. i Estestven. Nauk* No. 5, 101–7(1955).—Orange-red light is most satisfactory for synthesis of chlorophyll in both winter and summer wheat. However, in respect to red or blue light, the 2 forms of wheat show significant differences. The summer wheat is better adapted to blue light than is winter wheat. Plants grown in red light show approximately the same content of destroyed chlorophyll regardless of whether they were of winter or summer variety. Exposure to red light after initial growth in the red leads to cause more destruction of chlorophyll in the summer wheat; chlorophyll produced during preliminary growth in blue light appears to be somewhat more stable upon later exposure to red. Generally, respiratory gas metabolism in winter wheat is at a higher level than in summer wheat.

G. M. Kosolapoff

2

CHERNAVINA, I. A.

Effect of light on activity of cytochrome oxidase. B. A. Rubin, I. A. Chernavina, and A. V. Mikheeva. *Doklady Akad. Nauk S.S.S.R.* 103, 1039–41(1955).—Young sprouts of winter and summer wheat grown 6 days in the dark were exposed 9 hrs. to blue and red light during which time the activity of cytochrome-oxidase was detd. spectrometrically (by abs. max. at 550 mμ). Exts. from etiolated leaves of the wheat were almost devoid of this enzyme in the dark; exposure to light caused a sharp increase in its content, with the red light being somewhat more effective at 6 hrs. exposure and blue light at 3 hrs. The effects were best shown by winter wheat. G. M. Kosolapoff

MD

(2)

USSR/Physiology of Plants. Photosynthesis. I-2

Abs Jour: Ref. Zhur-Biologiya, No 1, 1958, 1134.

Author : Chernavina, I.A. and Rubin, B.A.
Inst : Moscow University
Title : The Formation of Photosynthesis Apparati in Various Groups of Plants in Connection with the Conditions of Their Existence. (second installment)

Orig Pub: Vestn. Mosk. un-ta, ser. biol., pochvoved., geol., geogr., 1956, No 2, 11-18.

Abstract: Sprouts of winter and spring wheat were grown under red and blue light filters under even light intensity, varying in individual experiments from 7.6×10^3 to 1.10^3 erg/cm^2 / second. Light from the blue-violet part of the spectrum, in contrast to the red-orange part, increased the respiration and peroxidase activity of the five-day shoots. The etiolated leaves exposed to three hours of blue light indicated heightening in the cyto-

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Abs Jour: Ref. Zhur-Biologiya, No 1, 1958, 1134.

chromoxidase activity; later the difference between the variants evened out. In the variant exposed to blue light the content of general free ascorbic acid and dehydroascorbic acid increased, the content of sugars and the proportion between the saccharose and the monosaccharides increased, while the content of organic acids decreased. After ten days growth the differences in the content of monosaccharides evened out. The blue light permitted an increase in the chlorophyll a content and also an increase in the proportion between chlorophyll a and chlorophyll b. In the ten-day shoots of spring wheat the content of chlorophyll remained greatest in the blue light. In the 10-day shoots of winter wheat the chlorophyll content was higher among those exposed to red light than among those under blue light. There is a bibliography of eleven titles.

CHERNAVINA, L. V.

Effect of conditions of preillumination on stability of chlorophyll in respect to dark destruction. I. A. Chernavina and B. A. Rubin (M. V. Lomonosov State Univ., Moscow). *Doklady Akad. Nauk S.S.S.R.* 111, 488–8(1958).—Blue preillumination of wheat plants not only increases the photoactivity but increases the stability of chlorophyll thus synthesized, in comparison with plants illuminated preliminarily with red light. G. M. Kavalanoff

20-5-45/60

AUTHOR CHERNAVINA, I.A., RUBIN, B.A. and NIKOLAYEVA, L.F.

TITLE On the Participation of Cytochromoxidase in the Process of Chlorophyll Synthesis.
(K voprosu ob uchastii tsitokhromoksidazy v protsesse sinteza khlorofilla.- Russian)

PERIODICAL Doklady Akademii Nauk SSSR 1957 Vol 114 Nr 5, pp 1080-1083 (U.S.S.R.)

ABSTRACT The main part of the investigations of pigment biosynthesis in the plastics is at present devoted to the disclosure of the chemism of this process. Much attention is paid to the clarification of the basic steps of protochlorophyll and chlorophyll formation. The enzymatic mechanism of the latter has, however hitherto been very little clarified. There exist enough data in publications which refer to the importance of the oxidizing-reducing regime of the tissues for the chlorophyll synthesis. The majority of studies of this kind is dedicated to the first stage of becoming green - the formation of the colorless predecessor of chlorophyll. The second stage, transformation of protochlorophyll to chlorophyll, is, on the whole, considered to be

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On the Participation of Cytochromoxidase in the Process of Chlorophyll Synthesis.

a photochemical process and has been little studied. It is by no means impossible that the role played by light in this case partially consists of the activation of the enzyme systems which participate in the chlorophyll synthesis. By a large number of experimental data the close connection between photosynthesis and respiration was found out, as well as the common nature of chemical reactions and enzyme systems which are responsible for the development of these processes. In publications of recent years a number of references can be found which allow the assumption that in green plants an enzyme such as cytochromoxidase participates not only in the respiration process, but also in the photosynthesis reactions which take place in the dark and in the processes of chlorophyll formation. In earlier investigations carried out by the authors it was shown that the activity of cytochromoxidase in the leaves of etiolated wheat germs is rapidly increased by influence of light. This becomes still more obvious with blue light. A similar dependence was also observed for the formation of chlorophyll. It is obvious that two processes which identically react to the modification of any factor must not be connected

On the Participation of Cytochromoxidase in the Process of Chlorophyll Synthesis.

with each other. The study of the influence of some inhibitors of the oxidizing enzyme systems upon the processes of greening may serve as one way to a solution of the problem of the connection between chromoxidase and chlorophyll formation. Besides specific compounds influencing the whole complex of metalliferous enzymes the authors examined also such compounds the influence of which on respiration is brought about by the cytochrome system. From the data of tab.1 it may be seen that an infiltration of sodium-azide and -fluoride in aetiolated wheat leaves sharply suppresses the formation of chlorophyll. The results with cyanide are totally different: NaCN in all tests stimulated chlorophyll formation. Respiration as against control is increased. The nature of this phenomenon is not yet clear. Thus the results indicate that the substances which inactivate the system of - Fe- Cu-proteids, at the same time have a suppressing effect on the process of the biosynthesis of green pigments. This does not

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On the Participation of Cytochromoxidase in the Process of Chlorophyl. Synthesis.

offer any possibility to estimate the participation of individual oxidases in chlorophyll formation which form part of the complex of metalliferous enzymes. Tests on the specific inactivation reaction of cytochromoxidase by CO were made. CO has an abruptly suppressing effect on chlorophyll synthesis. Further evidence for the participation of cytochromoxidase in chlorophyll biosynthesis was obtained by tests with malonic acid. Its infiltration suppresses the ability of chlorophyll synthesis in wheat germs. Succinic acid was of an opposite effect. It also neutralizes the inhibiting action of malonic acid. From the results it might be concluded that the process of chlorophyll synthesis is closely connected with the activity of the enzyme of the Fe-proteid group, namely the cytochromoxidase. Specific poisons inhibiting the individual members of the cytochrome system, suppress the chlorophyll biosynthesis. Removal of enzyme poisons enables the reestablishment of the process of biosynthesis of green pigments in these tissues.
(3 Tables, 1 Slavic reference)

CARD 4/5

20-5-45/60

On the Participation of Cytochromoxidase in the Process of Chlorophyll Synthesis.

ASSOCIATION: "M.V. Lomonosov" Moscow State University. (Moskovskiy gosudarstvennyy universitet im M.V. Lomonosova)
PRESENTED BY: A.I. Oparin, member of the Academy.
SUBMITTED: 25.2.57
AVAILABLE: Library of Congress.

CARD 5/5

CHERNAVINA, I.A., RUBIN, B.A., NIKOLAYEVA, L.F.

The ability of chlorophyll formation and oxidative systems in conifers. Nauch.dokl.vys.shkoly; biol.nauki no.1:144-148 '58
(MIRA 11:8)

1. Predstavlena kafedroy fiziologii rasteniy Moskovskogo gosudarstvennogo universiteta im. M.V. Lomonosova.
(CONIFERAE)
(CHLOROPHYLL)
(OXIDATION--REDUCTION REACTION)

RUBIN, B.A.; CHERNAVINA, I.A.; DOROFEYEVA, Ye.V.

Effect of different light conditions on the cytochemical characteristics of growing points in wheat. Nauch.dokl.vys. shkoly;biol.nauki no.4:165-168 '58. (MIRA 11:12)

1. Rekomendovana kafedroy fiziologii rasteniy Moskovskogo gosudarstvennogo universiteta imeni M.V.Lomonosova.
(Wheat) (Plants, Effect of light on)

CHERNAVINA, I.A.; KUPKE, G.

Effect of molybdenum on ascorbic acid dynamics in plants. Nauch. dokl.vys.shkoly; biol.nauki no.2:149-152 '59. (MIRA 12:6)

1. Rekomendovana kafedroy fiziologii Moskovskogo gusudarstvennogo universiteta im. M.V.Lomonosova.
(Plants, Effect of molybdenum on)
(Ascorbic acid)

RUBIN, B.A., prof.; CHERNAVINA, I.A.

Biochemical nature of plant chlorosis. Vest.Mosk.un.Ser.biol., pochv., geol., geog. 14 no.1:11-21 '59. (MIRA 12:9)

1. Moskovskiy gosudarstvennyy universitet, Kafedra fiziologii rasteniy.

(Chlorosis (Plants))

RUBIN, B.A.; CHERNAVINA, I.A.

Significance of the conditions of iron nutrition for the process of pigment formation. Vest. Mosk. un. Ser. 6: Biol., pochv. 15 no. 5:20-27 S-O '60. (MIRA 13:12)

1. Kafedra fiziologii rasteniy Moskovskogo universiteta.
(Plants, Effect of iron on) (Color of plants)
(Acetic acid)

CHERNAVINA, I.A.; BORISOVA, M.A.

Effect of sodium azide on the virescence process of oat seedlings. Nauch. dokl. vys. shkoly; biol. nauki no.1:149-153 '62. (MIRA 15:3)

1. Rekomendovana kafedroy fiziologii rasteniy Moskovskogo gosudarstvennogo universiteta im. M.V. Lomonosova.
(PLANTS, EFFECT OF SODIUM AZIDE ON)
(OATS)

RUBIN, B.A.; CHERNAVINA, I.A.; KARTASHOVA, Ye.R.

Some characteristics of iron metabolism in iron-manganese chlorosis. Fiziol. rast. 9 no.6:657-662 '62. (MIRA 15:12)

1. Department of Plant Physiology, Moscow State University. (Chlorosis (Plants)) (Iron metabolism) (Plants, Effect of manganese on)

RUBIN, B.A.; CHERNAVINA, I.A.; GAVRILENKO, V.F.

Studies on the relationship between the formation of chlorophylls and Fe-porphyrins in higher plants. Biologia plantarum 5 no.3:228-237 '63.

1. Institute of Plant Physiology, Lomonosov State University, Moscow, U.S.S.R.

[redacted]

Role of flavoprotein and copper-containing protein enzymes in the oxidative metabolism of plants with variegated leaves. Fiziol. rast. 10 no.2:204-209 Mr-Ap '63. (MIRA 16:6)

1. Kafedra fiziologii rastenii Moskovskogo gosudarstvennogo universiteta, Moskva.

L 31222-66 EWT(1) SCTB DD

ACC NR: AP6022837 SOURCE CODE: UR/0221/66/061/001/0132/0145

AUTHOR: Rubin, B. A. (Moscow); Chernavina, I. A. (Moscow); Nikolayeva, L. F. (Moscow) 34 B

ORG: Soil Biology Faculty, Moscow State University (Biologo-pochvennyy fakul'tet, Moskovskiy gosudarstvennyy universitet)

TITLE: Capacity of some plants for chlorophyll synthesis in the absence of light

SOURCE: Uspekhi sovremennoy biologii, v. 61, no. 1, 1966, 132-145

TOPIC TAGS: chlorophyll synthesis, light biologic effect, plant metabolism, plant respiration

ABSTRACT: The capacity of spruce and pine shoots to produce chlorophyll in the dark is associated with a rather high activity of some oxidation systems (e.g., the dehydrogenases) as compared with larch, which does not have this capacity. A characteristic of the metabolism of spruce shoots is the predominance of the glycolytic method of oxidizing the respiratory substrate.

Since some conifers that turn green in the dark have the same precursors of chlorophyll as do plants that synthesize this pigment only in the light, the main difference in the bio-synthesis of green pigments in these two groups of plants evidently lies in the mechanism of conversion of protochlorophyll into chlorophyll. Some of the experimental data was gathered with the participation of a student, G. I. Nemchenko. Orig. art. has: 1 figure and 11 tables.

[JPRS]

SUB CODE: 06 / SUBM DATE: none / ORIG REF: 015 / OTH REF: 042

UDC: 581.132

CHERNAVINA, L.F.

RUMYANTSEVA, A.S.; CHERNAVINA, L.F.

In memory of O.L.Katsnel'son. Vop.kur.fizioter. i lech.fiz.kul't. 23 no.2:190 Mr-Ap '58. (MIRA 11:6)
(KATSNEL'SON, OL'GA L'VOVNA, 1899-1957)